Telephony Global

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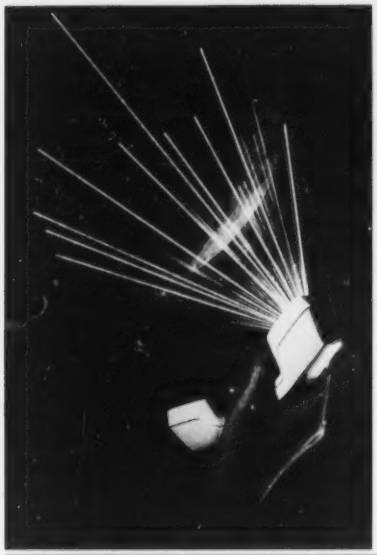
In the news...

ISDN CONNECTS IN NEW YORK STATE

AT&T OFFERS NUMBER PORTABILITY



MONDAY, MAY 4, 1992 Volume 222, No. 18

Telephony

FOR TODAY'S COMPETITIVE PUBLIC NETWORK MARKET

COVER STORY 30

A WIN-WIN SITUATION:
THE WIRELESS OFFICE IN THE U.S. AND EUROPE
By Jonathan Tarlin. How quickly will businesses move to wireless communications? The opportunity is there for manufacturers and service providers on both sides of the Atlantic as traditional wireline and wireless telecom products and services converge
Cover art by Michel Tcherevkoff, The Image Bank

NEWS OF THE WEEK

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JAPAN TAKES UP NISDN CHALLENGE 35
By Michael Galbraith. NTT's decision to take its basic rate interface service nationwide caused a dramatic jump in customer interest. Now NTT and Japan are well on the way to completing a nationwide public ISDN

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By Carol Wilson. NFOEC attendees got an earful on video to the home—from the chief technologist of CableLabs. And his message may not have been a welcome one for local exchange carriers

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The company has begun spreading the engineering, construction and operations experience gained in Cerritos throughout its organization.

"We're starting now to take Cerritos and go from the 'planning' stages to the 'doing' stages," said Mike Hamilton, manager of advanced operations testing. "It's particularly important for our fiber-in-the-loop deployment plans to get these results and analysis and begin applying them to our day-to-day operations."

"Our charter here is to gather knowledge, then funnel it back throughout the company," echoed Don Bache, general manager of advanced operations testing and day-to-day head of the Cerritos project. "We use Cerritos as a testing ground not only for technology, but also for service and operations experience."

For example, Cerritos has helped GTE acquire standard engineering and operations procedures, including fiber-splicing techniques. Those skills are now being passed on to workers throughout the company, Hamilton said.

GTE also has been able to evaluate and standardize on fiber products such as optical loop fault finders and splice closures.

To further ramp up the company's fiber operations expertise, the company placed into service last year an Operations Management Center, which will monitor the Cerritos fiber network and help GTE develop cost-effective support systems for fiber, said Bache.

Cerritos also is helping GTE get a handle on the customer demand for video and on other broadband services. Although surveys and polls provide proof that consumers want broadband to the home in concept (see story at right), the real-life experiences of Cerritos residents give GTE a much clearer view of what customers really want.

One such customer is Betty Hyatt, a Cerritos "super-user" seemingly involved in almost every aspect of the project. At home, Hyatt and her family are CenterScreen and MainStreet subscribers, in addition to being one of only two families receiving video-on-demand and video telephone service.

Hyatt also uses video-on-demand as a second-grade teacher at Benito Juarez Elementary School, one of the two grade schools involved in the project. She uses the system to pull up programs from a video library to augment her lessons and uses the videoconferencing capability to allow her students to hold meetings with video pen pals at its partner school across town.

Hyatt gives all the services high marks. At home, her family enjoys the convenience of having a variety of services at their fingertips, while at school, she almost immediately felt comfortable with video in the classroom. "The technology is at my service; its serving me," she told *Telephony*.

"We have been able do some very

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Clarification

Last week's cover story, "Nynex embarks on a new road" (page 33), was written by Charles F. Mason, *Telephony's* East Cost Bureau Chief. The byline was inadvertently dropped during production.

Doctors, teachers want broadband net

A poll released late last month shows strong support among education and health professionals for the development of an advanced telecommunications network.

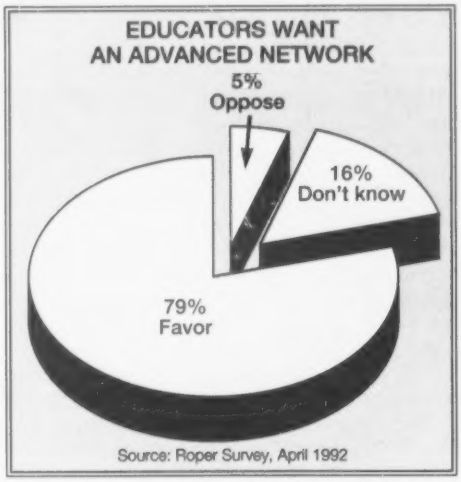
Respondents in the poll, conducted by the Roper Organization on behalf of GTE, indicated telephone companies need to play a key role in developing a national broadband network. And the 400 education and health care administrators polled supported public policy changes to make that possible, including telco entry into the cable TV and information services business.

According to the survey, of those familiar with the cable/telco cross-ownership ban, 77% favored legislation that would lift the ban. Meanwhile, 76% said telcos should be allowed to transmit services they have created, while only 4% think they should be limited to providing transmission services alone.

In order to broaden options available to consumers, seven of 10 respondents said they would like to see marketing partnerships between telcos and cable companies to provide information services in tandem.

The respondents showed a strong appreciation of the role that advanced telecom services could play in both the education and health care fields: 79% of educators and 75% of health care executives said they were in favor of the creation of an advanced, public communications network.

Educators said a broadband public network would lead to applications such as on-line access to video databases and research libraries, networking with other schools and distance learning. Health care providers cited applications including instant access to medical data and research and long-distance visual consultations among doctors.



A majority of education leaders familiar with proposed legislation favor creation of an advanced fiber optic communications system.

A WIN-WIN SITUATION: THE WIRELESS OFFICE IN THE U.S. AND EUROPE

JONATHAN TARLIN

The development of wireless PBXs, key systems and Centrex systems is creating opportunities for manufacturers and service providers on both sides of the Atlantic.

As traditional wired and wireless telecommunications products and services converge, both incumbent and new players could benefit from the resulting technologies. There are several forces that are driving the development of wireless office products in the U.S. and Europe: the search for new growth areas in relatively mature customer premises equipment markets; the development of new personal communication services (PCS), particularly personal communication networks (PCNs) and CT2 (cordless telephone, second generation); and the market demand for mobility and portability as witnessed by growth in other mobile communications markets such as cellular and paging.

But the real potential for wireless office telephony, of course, depends on the level of market demand.

Businesses are interested in wireless office products because of the potential for enhanced productivity and the cost savings. Productivity is enhanced because the business can be reached at all times. Some studies have estimated that two-thirds of calls to businesses do not reach their intended party. Businesses that experience a large number of moves, adds and changes may experience cost savings because wireless systems often are less expensive to reconfigure than wireline systems.

EMCI Inc. surveyed 100 telecommunications managers in the U.S. and 100 in France, Germany, Italy and the U.K. to estimate demand for wireless office telephone products. In the U.S., approximately 19% of those

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Getting a wireless head start

Companies that are already involved in wireless office telephone manufacturing for either the U.S. or Europe include:

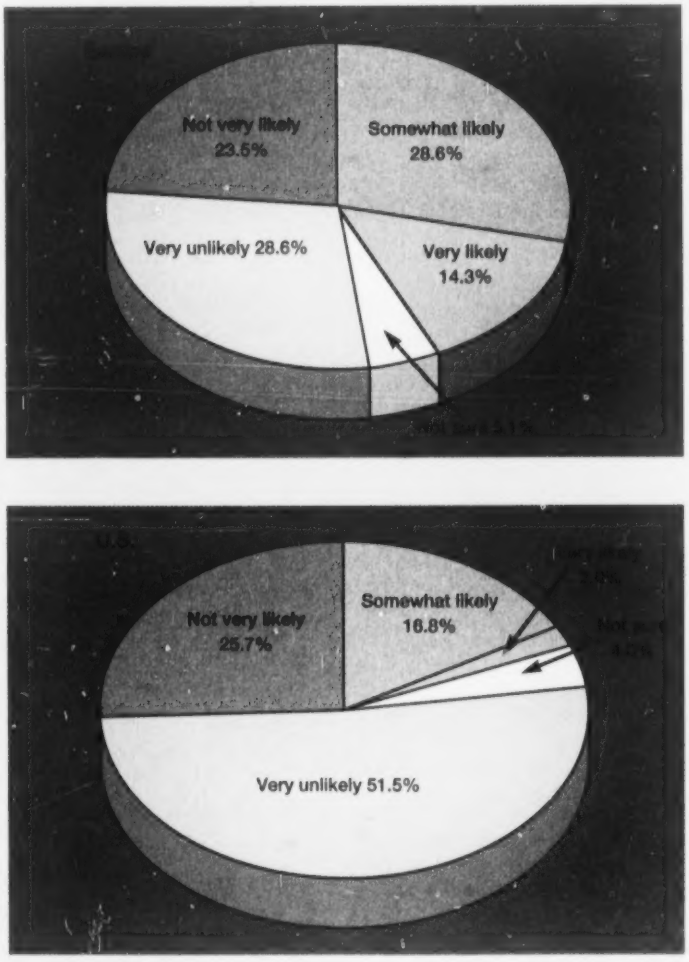
Alcatel (France)
Ascom (Switzerland)
AT&T (U.S.)
Bosch (Germany)
Ericsson (Sweden)
Ferranti (U.K.)
GPT (U.K.)
Hagenuk (Germany)
Matra (France)
Motorola (U.S.)
Nokia (Finland)
Northern Telecom (Canada)
Philips (Netherlands)
Siemens (Germany)
Various Japanese companies

surveyed said they were interested in upgrading at least part of their current office systems to wireless. The comparable number for Europe was 43%, considerably higher than the U.S. (Figure 1). In both cases, the question was based on a 30% to 50% price premium for wireless compared to wired systems.

Differences between Europe and the U.S. here may be attributed in part to Europe's generally higher awareness of wireless office telephony. According to the survey, 61% of telecommunications managers in Europe were aware of at least one wireless office product; in the U.S. only 36% were aware. Although there are differences in awareness levels, telecommunications managers in Europe and the U.S. mainly agree on what the most important factors are in purchasing any office telephone system (Table 1). Both consider quality the No. 1 consideration, followed by maintenance and service support. For purchasing wireless systems specifically, both groups ranked advanced handset features and the ability to roam throughout the office (across multiple base stations) as important considerations.

Based on this survey information, EMCI estimated the short-term (to 1995-1996) market potential for number of wireless office lines (Figure 2). It segmented this demand by large firms (those with more than 400 installed lines) and small firms (those with less than 400 lines). For France, Germany, Italy and the U.K., the market potential is estimated at 6.4 million lines. In the U.S., this estimate is 2.3 million. It should be noted, however, that the U.S. estimate is conservative given the relative lack of awareness of wireless office telephone products.

FIGURE 1
LIKELY INTENTION TO PURCHASE
WIRELESS OFFICE SYSTEMS



Source: EMCI Inc.

Standards and Products

Wireless office telephone systems encompass various products and technical standards. In the U.S., there are no clear standards for wireless products. Some U.S. products may operate under unlicensed Federal Communications Commission Part 15 frequencies such as spread spectrum systems like the one proposed by a joint venture between Cylink and Alcatel. Currently, there are several ongoing PCS experiments involving wireless PBXs, most notably McCaw/Ericsson and Southwestern Bell/Panasonic, which are working on cellular/wireless PBX hybrid products.

In Europe, there are several standards and proposed standards for wireless office phone products, including CT2 common air interface (CAI), digital European cordless telecommunications (DECT), CT3, and DCS 1800. CT2 CAI has been accepted as a Pan-European standard for telepoint (public), residential and business applications.

France and Germany currently have experimental CT2 telepoint systems that may be used in conjunction with office applications. The U.K., after several false starts, will probably implement a CT2 system by the end of the year. DECT has not yet been accepted

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as a Pan-European standard, but is expected to be approved in the future. According to Ericsson, DECT's major proponent, the technology is more functional and provides more capacity than CT2, particularly through base station handoff capabilities. CT3 is the precursor to DECT and follows many of the same protocols, while DCS 1800 is the Pan-European standard for PCNs.

Business Opportunities

The equipment manufacturers best positioned for this market are those currently involved in traditional PBX manufacturing, mobile radio manufacturing, or both (see sidebar on page 31). Additionally, companies that are international in scope may gain benefits through economies of scale of research and development, and production for an international market. The synergies of companies that manufacture and distribute both wired and wireless equipment will be an important factor for success in this market.

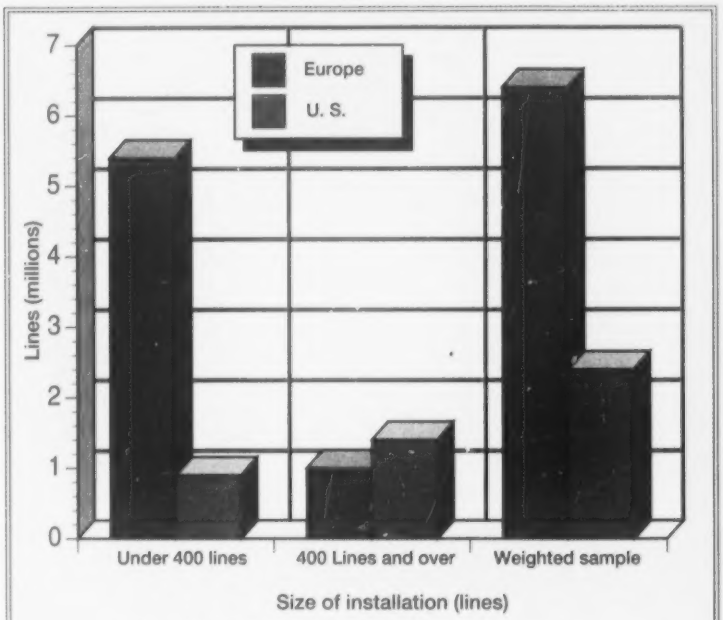

FIGURE 2 SHORT-TERM DEMAND POTENTIAL FOR WIRELESS OFFICE LINES: EUROPE AND U. S.

Source: EMCI Inc.

For distributing and marketing wireless office products, there are several possible strategies. One possibility is that traditional PBX manufacturers continue using their existing distribution channels such as direct sales, interconnect companies and local exchange carriers. It needs to be emphasized, however, that the very nature of a wireless product will require considerably more support and maintenance than traditional PBX systems. For this reason, wireless service providers, such as cellular or future PCS providers that are accustomed to dealing with the complexity of mobile communications, may also be points of distribution and marketing. This will be particularly true if wireless office handsets are compatible with an operator's public network such as a CT2 or PCN system. The operator then has a vested interest in distributing handsets to potential customers.

The development of wireless office telephony is another step that is blurring the distinctions between the wired and wireless worlds.

For traditional CPE manufacturers, wireless systems offer a significant expansion opportunity in a maturing market. For mobile radio manufacturers, there is the potential to expand the portfolio of product offerings.

For LECs, wireless PBX equipment sales and wireless Centrex service can increase revenues. For wireless carriers, there is the opportunity for providing new services in conjunction with business applications. Clearly, wireless office telephony has something to offer everyone. ■

TABLE 1 COMPARISON OF IMPORTANCE OF FACTORS IN TELEPHONE SYSTEM PURCHASE: EUROPE AND U. S.

Factor	Rating	Rank	Rating	Rank
Quality	8.9	1	9.5	1
Maintenance/ service support	7.5	2	9.1	2
Price	6.7	3	8.1	4
Ease of systems upgrades/changes	6.7	4	8.3	3
Networking capabilities	6.6	5	7.5	6
ISDN compatibility	6.4	6	5.8	8
Cost of moves, adds, changes	5.7	7	8.0	5
Processing capabilities	5.6	8	6.8	7

Jonathan Tarlin is a Senior Consultant at EMCI Inc., Washington, D.C. EMCI specializes in multiclient and proprietary market research studies in the wireless communications industry. The information in this article was taken in part from EMCI's study, European Wireless Office Telephony and U.S. Wireless.